EXHIBIT 7

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
SHERMAN DIVISION

MOBILITY WORKX, LLC, Plaintiff, v. CELLCO PARTNERSHIP D/B/A/ VERIZON WIRELESS, INC., Defendant.	JURY TRIAL DEMANDED

REBUTTAL EXPERT REPORT OF DR. SUKUMARAN NAIR REGARDING THE VALIDITY OF U.S. PATENT NUMBERS 8,213,417 and 7,231,330

July 5, 2019

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The propagation channel is influenced by the various obstructions surrounding antennas and the existing environmental conditions. Another important question for a personal receiver (or handheld) antenna is also the influence of the human body on the operating characteristics of the working antenna. The various blocks that comprise a propagation channel are shown in Figure 1.1.

Its main output characteristics depend on the conditions of radio wave propagation in the various operational environments where such wireless communication links are used. Next, we briefly describe the frequency spectrum, used in terrestrial, atmospheric, and ionospheric communications, and we classify some common parameters and characteristics of a radio signal, such as its path loss and fading for various situations, which occur in practice.

62. The statements made by Proctor regarding this issue are surprising and obviously wrong.

63. As the wireless communications conditions are measured with parameters such as Signal to Noise Ratio, Signal Strength, and Bit Error Rate (BER), which are indeed the wireless communications characteristics.

III. Rebuttal to Secondiary Considerations of NON-OBVIUSNESS

64. Proctor mischaracterizes how UMTS works and operates. Proctor bases his entire argumentn on Paragraph 734 by his own assumption that 4G is nothing but the combination of UMTS elements, as we know Verizon nor any carrier in the world would have invested Billions of dollars for the same technology that was already deployed.

65. The UMTS and SRNS hard handover procedures use the MSC and circuit switched elements that are bound to be obsolete and an entire system that is about to be shut down by most carriers (For example Verizon will shut down CDMA network is in the process or retiring its network, that includes the MSC in the CDMA network)[17]

66. Verizon no longer activates CDMA devices and citing its website:

[17] https://www.verizonwireless.com/support/knowledge-base-218813/

> Verizon Wireless is retiring its CDMA (3G) network. As a result, we are no longer allowing activation of CDMA-only devices, including CDMA-only basic phones and smartphones, or 4G LTE smartphones that do not support HD Voice service.
>
> Current users of CDMA-only devices or 4G LTE voice-capable devices that do not support HD Voice service can continue to use their current devices until we retire our CDMA network, or can change devices as follows:
>
> Users of CDMA-only devices can only change to other CDMA-only devices or to 4G LTE devices that support HD Voice.
>
> Users of 4G LTE smartphones that do not support HD Voice can only change to other 4G LTE smartphones that do not support HD Voice or 4G LTE HD Voice devices.

67. As explained in this report, MSC, BSC, BTS, RNC, NodeB are components of the 1X CDMA network and UMTS (3G) CDMA Network. Therefore, Verizon requires a handover protocol to support an IP-based network like 4G and also its future 5G deployments.

68. Mr. Proctor admits that LTE is a packet-switched ONLY system and hence it is supertior to UMTS a voice over the circuit-switched network (Paragraph 736).

> LTE is a packet-switched only system using the internet protocol on certain interfaces, while UMTS supported voice over the circuit-switched. The alleged invention did not propose this change in system architecture; and …

69. Proctor misses to identify that LTE is:

- An All-IP network that enables Network Function Virtualization, which means that Cloud-based platforms can now control 4G and 5G systems,
- That an IP-based system is more efficient to manage and operate, including Self-Organizing networks,

- All IP tunnels are widely used in LTE as all eNodeBs are a terminating IP tunnel, whereas in UMTS an RNC is the terminating IP tunnel and 100's or 1000's of NodeBs share the same tunnel,
- Testing and certification of all mobile phones required of a packet-swiched emulator

70. Proctor misses important points and makes wrong assumptions including the most important that an RNC and NodeB is a combinable set, and by the RNC supporting IP leads to the series of NodeBs connected to an RNC to be IP-based as in LTE, assumption that is wrong and incorrect.

IV. Nexus between LTE and the '417 Patent

71. The nexus between the '417 Patent and LTE is in the use and allocation of IP-based resources pro-actively as IP-tunnels move from eNodeB to eNodeB as Mobile Phones move from eNode to eNodeB, which is not required by UMTS. Hence, as hand handovers are a must, the need to predict and select the right eNodeB to handover before making the decision is highly important.

72. CDMA 1X, CDMA 1xEvDO, CDMA (3G) are being shut down by Verizon, hence LTE can only rely on the '417 patent for handoff in 4G and potentially in 5G.

V. Gwon II Patent not disclosed in the Invalidity Contentions.

73. The Gwon II patent was not disclosed nor in 1st Invalidity Contentions nor in the amended version presented by Verizon. However, a section presenting Gwon I and Gwon II is presented in this report.

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XVI. Rebuttal to Secondary Considerations of NON-OBVIOUSNESS

451. Proctor mischaracterizes how UMTS works and operates. Proctor bases his entire argumentn on Paragraph 734 by his own assumption that 4G is nothing but the combination of UMTS elements, as we know Verizon nor any carrier in the world would have invested Billions of dollars for the same technology that was already deployed.

452. The UMTS and SRNS hard handover procedures use the MSC and circuit switched elements that are bound to be obsolete and an entire system that is about to be shut down by most carriers (For example Verizon will shut down CDMA network is in the process or retiring its network, that includes the MSC in the CDMA network)[23]

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Date: July 5th, 2019

By: 

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